

CLAIMS

1. A heating apparatus comprising:

an exciting coil made up of a plurality of windings
of a conductor wire for generating a magnetic field;

5 a heating element that is heated by means of
electromagnetic induction through an action of the
magnetic field; and

an abnormally high temperature detection section
that detects that said heating element reaches an
10 abnormally high temperature,

wherein said abnormally high temperature detection
section is disposed on the same side as said exciting
coil with respect to said heating element and between
winding bundles of the conductor wire of said exciting
15 coil.

2. The heating apparatus according to claim 1, further
comprising at least one of a center core made of a
ferromagnetic member disposed at a center position of
20 the winding of the conductor wire of said exciting coil
and a side core made of a ferromagnetic member disposed
on the outer side of the winding bundle of the conductor
wire of said exciting coil.

25 3. A heating apparatus comprising:

an exciting coil made up of a plurality of windings
of a conductor wire for generating a magnetic field;

a heating element that is heated by means of electromagnetic induction through an action of the magnetic field;

an abnormally high temperature detection section
5 that detects that said heating element reaches an abnormally high temperature; and

a center core made of a ferromagnetic member disposed at a center position of the winding of the conductor wire of said exciting coil,

10 wherein said abnormally high temperature detection section is interposed between said exciting coil and said center core.

4. A heating apparatus comprising:

15 an exciting coil made up of a plurality of windings of a conductor wire for generating a magnetic field;

a heating element that is heated by means of electromagnetic induction through an action of the magnetic field;

20 an abnormally high temperature detection section that detects that said heating element reaches an abnormally high temperature; and

a side core made of a ferromagnetic member disposed on the outer side of the winding bundle of the conductor
25 wire of said exciting coil,

wherein said abnormally high temperature detection section is interposed between said exciting coil and said

side core.

5. The heating apparatus according to claim 1, further comprising an opposed core disposed on the opposite side
5 of said exciting coil with respect to said heating element for forming a magnetic path.

6. The heating apparatus according to one of claims 1, 3 and 4, wherein the conductor wire of said exciting
10 coil in the area where said abnormally high temperature detection section is disposed are parallel to each other in a longitudinal direction of said heating element.

7. The heating apparatus according to one of claims 1, 3 and 4, wherein the winding bundle of the conductor
15 wire of said exciting coil is symmetric with respect to the winding center of the conductor wire.

8. The heating apparatus according to one of claims 1, 3 and 4, wherein a flat-shaped thermal conductor is
20 interposed between the conductor wires of said exciting coil in such a way that the plane of the thermal conductor is directed along the winding direction of the conductor wire and heat is transmitted to said abnormally high
25 temperature detection section through thermal conduction of the thermal conductor.

9. The heating apparatus according to claim 8, wherein the thermal conductor is made of non-magnetic, highly thermal conductive metal.

5 10. The heating apparatus according to one of claims 1, 3, and 4, wherein said abnormally high temperature detection section is made up of at least one thermostat.

10 11. The heating apparatus according to any one of claims 1, 3 and 4, wherein said abnormally high temperature detection section is disposed in an area facing a minimum heated area of said heating element that heats a heated body in a minimum size that can be heated.

15 12. The heating apparatus according to any one of claims 1, 3 and 4, wherein said heating element is made up of a body of rotation that moves with respect to said exciting coil and said exciting coil is disposed at an opposed position along the outer surface of the body of rotation.

20

13. The heating apparatus according to claim 3, wherein said center core is disposed sideward apart from the winding center of the conductor wire of said exciting coil and said abnormally high temperature detection
25 section is disposed adjacent to said center core between said exciting coil and said center core.

14. A fixing apparatus that uses the heating apparatus according to one of claims 1, 3 and 4 as a heating section of a heat-fixing section that heat-fixes an unfixed image formed on a recording medium.

5

15. An image forming apparatus that uses the fixing apparatus according to claim 14 as a heat-fixing section that heat-fixes an unfixed image formed on a recording medium.